detail. Others will benefit by a study of the author's methods and the treatment of the data gathered and discussed.

It should be noted that this work would not have been possible with Green's (1956) revision*. Lloyd would have had to name "patterns" and he would have been bogged down with names, literature, and specimens instead of doing the field work necessary to make these discoveries. This, I believe, is further proof of the benefits that will come about for biology as a whole as more and more groups are revised. -- R. H. Arnett, Jr.

*Green, J. W., 1956. Proc. California Acad. Sci., 28: 561-613, 19 figs.

REVIEWS

EPIZOIC SYMBIOSIS. By J. L. Gressitt, J. Aoki, and G. A. Samuelson, 1966. Pacific Insects, 8: 221-297. WEEVIL GENUS PANTORHYTES. By J. L. Gressitt, 1966. Pacific Insects, 8: 915-965.

Only a few cases of epizoic symbiosis have been recorded previous to these papers. The sudden discovery of many species of beetles showing such an interesting phenomenon can only arouse suspicion that symbiosis of this sort is more widespread than previously believed.

Two Papean weevil genera, Gymnopholus (Leptopiinae) and Pantorhytes (Brachyderinae), are recorded as supporting on their elytra or pronotum growths of algae, fungi, lichens, and liverworts in which live mites, nematodes, rotifers, diatoms, and other microorganisms. So far, only 16 of the 47 species of Gymnopholus and 10 of the 60 species of Pantorhytes are known to support these plants, but Gressitt suspects there are more.

With the exception of the new orabatid mite, Symbionbates papuensis Aoki, the animal life found in these plants is named only to phylum; the cryptogramic plants are determined to family. Descriptions of new species (33 of Gymnopholus and 31 of Pantorhytes) are accompanied by keys to all of the species of each genus. A list of additional species exhibiting epizoic symbiosis includes a few genera from three other weevil subfamilies (Cryptorhynchinae, Otiorhynchinae, and Baridinae) and also the colydiid, Dryptops phytophorus, which Samuelson describes as a new species.

In addition to the taxonomic value of this work, these articles will surely stimulate further interest in symbiotic relationships between insects and plants and other animals. -- Janice C. Foster, Purdue University.

WHITE GRUBS AND THEIR ALLIES; A STUDY OF NORTH AMERICAN SCARABAEOID LARVAE. By Paul O. Ritcher, 1966. Studies in Entomology no. 4. Oregon State University Press, 219 pp. $ 10.00.

Students of the Scarabaeidae are very fortunate to have such a wealth of literature on their group. With the exception of the Cerambycidae, this family is probably the best known of the major families of North American beetles. There are, of course, several difficult groups that remain to be worked out, most of which are currently under study by one or more American Coleopterists. Out-